

## **REMARKS**

### **The Objection to the Drawings**

The Office Action indicates that Fig. 1 contains reference characters 26 and 52, not mentioned in the specification. In fact, character 26 is mentioned on page 4, line 26. However, it is noted that there are two elements of Fig. 1 bearing character 26. Accordingly, Fig. 1 has been amended to change one occurrence of 26 to 27, and the specification has been amended to change the reference to 26 at line 27 to reference character 27. Reference to reference character 52 has been corrected from 42 in the specification.

Reference to character 422 has been corrected to character 420 in the specification. Similarly, reference to character 522 has been corrected to character 520 in the specification.

A replacement sheet for Fig. 1 has been submitted herewith, along with a markup showing where one of the two elements labeled 26 has been changed to 27.

In view of these specification amendments and the replacement sheet for Fig. 1, the drawings are now believed to be acceptable. Approval is respectfully requested.

### **The Objection to the Specification**

The specification has been amended to remove the embedded hyperlink as required by the Office Action. Approval of the specification is respectfully requested.

### **The Objection to claim 18**

Applicant has amended claim 18 as suggested by the Examiner and agrees that the clarity of the claim is enhanced by the amendment.

### **The Indefiniteness rejection of claim 19**

Claim 19 has been amended to correct the improper dependency and antecedent basis noted in the Office Action. This error has been corrected. Applicant appreciates this inadvertent error being brought to his attention, and regrets the inconvenience to the Examiner it might have caused.

## **The Leak Reference**

As best understood, the Leak reference provides for operation of two types of "receiver units" such as 302 and 303, 601 and 602. Receiver unit 302 can communicate with the Internet, while receiver units 303, 601 and 602 cannot (see col. 5, lines 44-65, and col. 7, lines 53-57). By use of "triggers" containing connected content/disconnected content attributes, the system is able to provide Internet content to those receiver units that are unable to communicate with the Internet. This is done by pre-fetching Internet content and forwarding such content to all receiver units. This content is forwarded by inserting the content into the video stream (see col. 9, lines 34-38) and broadcasting it to the receiver units.

As best the undersigned can determine, there is no caching carried out in Leak, nor is there any scanning for URLs, as required by the claims. Instead, Leak looks for triggers in the television signal, some of which might contain URLs as well as other information. If an attribute of the trigger indicates that the trigger relates to "disconnected content", the Leak device may download the Internet content related to a URL forming a part of the trigger. (However note: Apparently the presence of a disconnected content attribute does not necessarily require that the trigger contain a URL or similar Internet address.) Leak then embeds the Internet content into the video stream so that it is broadcast to all of the receiver units for use by any receiver units that are unable to connect to the Internet. Such forwarding, so far as is disclosed, happens without benefit of a cache memory, and without a request by the receiver unit - both required by certain of the claims.

## **Applicant's Invention**

While not wishing to limit the scope of Applicant's protection by these remarks, it is useful to review an example embodiment in order to contrast with the Leak reference. In one exemplary embodiment consistent with the present invention, a digital cable system headend that provides both television content and Internet access to subscribers scans content for embedded URLs. Upon finding a URL, the headend retrieves the corresponding Internet content and places it in a cache memory. In this manner, the cable headend can quickly respond to requests from subscribers for the URL, and can deliver

the corresponding Internet content without need to access the Internet content again, and without need to broadcast the content if no request is received, thus wasting valuable video bandwidth. While various forms of caching are known, the cited art neither teaches nor suggests scanning television content for a URL and caching Internet content when a URL is found in the television content. This is done without the URL being embedded within a trigger signal. Additionally, delivery of the content to the subscriber requesting the content is carried out only upon request of the subscriber.

### **Regarding the Rejection to Claims 1 and 7-9**

In order to further clarify distinctions of claim 1 over the cited Leak reference, claim 1 has been amended to clearly establish that the process is carried out by a service provider and that the cache memory resides at a service provider facility. Note that the Internet content is only delivered from the content provider upon request of the subscriber. This clearly distinguishes over the cited Leak reference in which content is broadcast to all receiver units without benefit of a request. In fact, the undersigned finds no indication in the Leak reference that receiver units of the type receiving the Internet content embedded in the video stream in the manner described above can communicate requests to the service provider. Such ability is most frequently provided via the Internet, and these receiver units cannot communicate with the Internet. Thus, there is no evidence that these receiver units can even make a request for the Internet content that would be received as called for in claim 1 (*"receiving a request from a subscriber for the URL"*). And, there is no suggestion that caching the content would be helpful in any way, since the Internet content is broadcast to all receiving units. Claim 1 has also been amended to clearly require that retrieving the content is carried out upon receipt of the request.

In addition to the above, Applicant finds no teaching or suggestion of "scanning content" within the meaning of the claims. In the Leak reference, the content is actually examined for "triggers". Some, but not all triggers happen to contain a URL. The "triggers" contain attributes which suggest that they may further include a URL (depending on the type of trigger - connected or disconnected), but there is no teaching or suggestion of scanning content for a URL as required by the claims. It goes without saying that, without

a teaching of "scanning" for a URL in the content, there is clearly no teaching of mirroring as a result of finding the URL during the scan.

Once the triggers are identified in Leak, the content is retrieved from the Internet and then integrated into the television broadcast, consuming TV broadcast bandwidth. There is apparently no caching of the content and no retrieving and delivering as required by the claims in response to a request for the content.

In view of the above, it is believed clear that claim 1 as amended is neither anticipated nor obviated by the Leak reference alone or in combination with the other art of record.

Since claim 7 as originally filed relates to an embodiment where the caching occurs within a set top box, the substance of this claim is essentially cancelled without prejudice to avoid conflict with the amendments of claim 1. The language of claim 7 has been replaced by language indicating that the requested Internet content is broadcast over an out-of-band channel to a cable modem. Other claims remain in which caching occurs in both locations.

Claims 8 and 9, being dependent from allowable claim 1, are believed also clearly allowable.

#### **Regarding claims 10 and 15**

Claim 10 has also been amended in a manner similar to that of claim 1, to assure that it is understood that the caching operation takes place at the service provider site. The Office Action asserts that the cited reference "implicitly comprises a cache memory" for retrieving content associated with the URL. Applicant respectfully submits that such an assertion must be backed up with evidence. In the absence of such evidence, the rejection cannot stand. As stated above, the operation of Leak is such that there would appear to be no reason for a cache at the headend since all Internet content is forwarded to the receiving units. An assertion that the cache is implicit must be supported by the evidence, but in this case, the evidence is contrary to the assertion. Additionally, such cache memory must reside at the content provider in order to meet the amended claim. Also, the above remarks regarding the lack of any teaching or suggestion of scanning for a URL, and

response to a request from a subscriber unit are equally applicable. Accordingly, claims 10 and 15 are believed allowable. Reconsideration is respectfully requested.

#### **Regarding claims 24 and 26**

Claim 24 has been amended in a manner similar to that of claim 1. Hence, the above comments regarding claim 1 are equally applicable. Claim 26, being dependent from claim 24 is also believed allowable. Reconsideration of claims 24 and 26 is respectfully requested.

#### **Regarding claims 16 and 27**

In view of the above amendments and arguments, each of which are applicable, these dependent claims are also believed allowable. Reconsideration and allowance is respectfully requested.

#### **Regarding claims 2-5, 11-13, and 25**

This rejection is believed moot in view of the amendments assuring that the cache resides at the service provider rather than the set top box. Additionally, the above comments regarding the base claims from which these claims depend are equally applicable. Reconsideration and allowance is respectfully requested.

#### **Regarding claims 6 and 14**

This rejection is again based upon an assertion without supporting evidence that a cache memory may inherently be provided with the service provider headend. Applicant again respectfully requests that this be established by documentation, or the rejection withdrawn. As previously pointed out, the Leak reference pre-fetches and forwards by broadcast because the receiving unit is unable to communicate with the Internet. This is clearly distinguished from caching the content to memory for later retrieval upon request as required by the claims. Moreover, as previously pointed out, the Leak receiving units that receive the Internet content that is allegedly cached, receives it without request - the content is pushed (by broadcast), not pulled (by request). And, the receiving units are

apparently unable to even make such a request. Thus, if the caching were done at the service provider headend, the receiver units would never be able to retrieve the content. Thus, adding caching to Leak provides no benefit since the Internet content is being broadcast anyway without need for a request from the receiving units (prompting a retrieval from cache memory).

While Mingdoll may suggest use of a cache memory at a proxy server, Applicant finds no suggestion in any of the cited references of determining what to store in such a cache memory by scanning interactive television content for URLs as required by the claims. Moreover, there is no teaching or suggestion that would lead one of ordinary skill in the art at the time of the invention to combine the teachings of Mingdoll with Leak. Accordingly, reconsideration is respectfully requested.

#### **Regarding claims 17-20**

The above comments regarding Leak are equally applicable. Additionally, claim 17 has been amended in a manner similar to claim 1. Reconsideration and allowance is respectfully requested.

#### **Regarding claims 21-23**

Claim 21 remains unamended and is believed to clearly distinguish over the Leak reference for all of the reasons cited above. Moreover, the above arguments with regard to combination of Leak with Mingdoll are equally applicable.

In making this rejection, four references are purported to provide a combination of features that would be obvious to one of ordinary skill in the art to combine. However, as described above, there are numerous flaws in the Leak reference alone. These flaws are not repaired by combination with the Mingdoll, Arlitt and Tso references of record. As noted above, the Leak reference falls short of disclosing: scanning for URLs, caching the URLs and delivering the Internet content to subscribers upon request. Instead, Leak looks for triggers and if one is found containing a URL, the content is retrieved and delivered to all receiver units. None of the cited secondary references provide the missing disclosure. Additionally, there is no suggestion in the art for making the proposed combination.

Clearly, the only motivation for combining the four references is a hindsight reconstruction based upon Applicant's own teachings. Accordingly, claims 21-23 are believed allowable as presented. Reconsideration and allowance is respectfully requested.

### **Conclusion**

Reconsideration of all claims as amended is respectfully requested. The main reference (Leak) fails to provide adequate disclosure to support the rejections since it fails to teach or suggest scanning TV content for embedded URLs, and placing the corresponding content in a cache memory for later retrieval upon request of a subscriber as taught and claimed by Applicant.

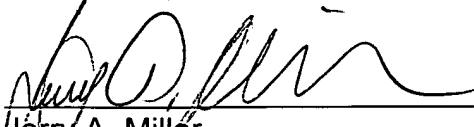
The undersigned additionally notes that many other distinctions exist between the cited references and the invention as claimed. However, in view of the clear deficiencies in the art as pointed out above, further discussion of these distinctions is believed to be unnecessary at this time. Failure to address each point raised in the Office Action should accordingly not be viewed as accession to the Examiner's position.

No amendment made herein was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim unless an argument has been made herein that such amendment has been made to distinguish over a particular reference or combination of references.

In view of this communication, all claims are now believed to be in condition for allowance and such is respectfully requested at an early date.

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Respectfully submitted,

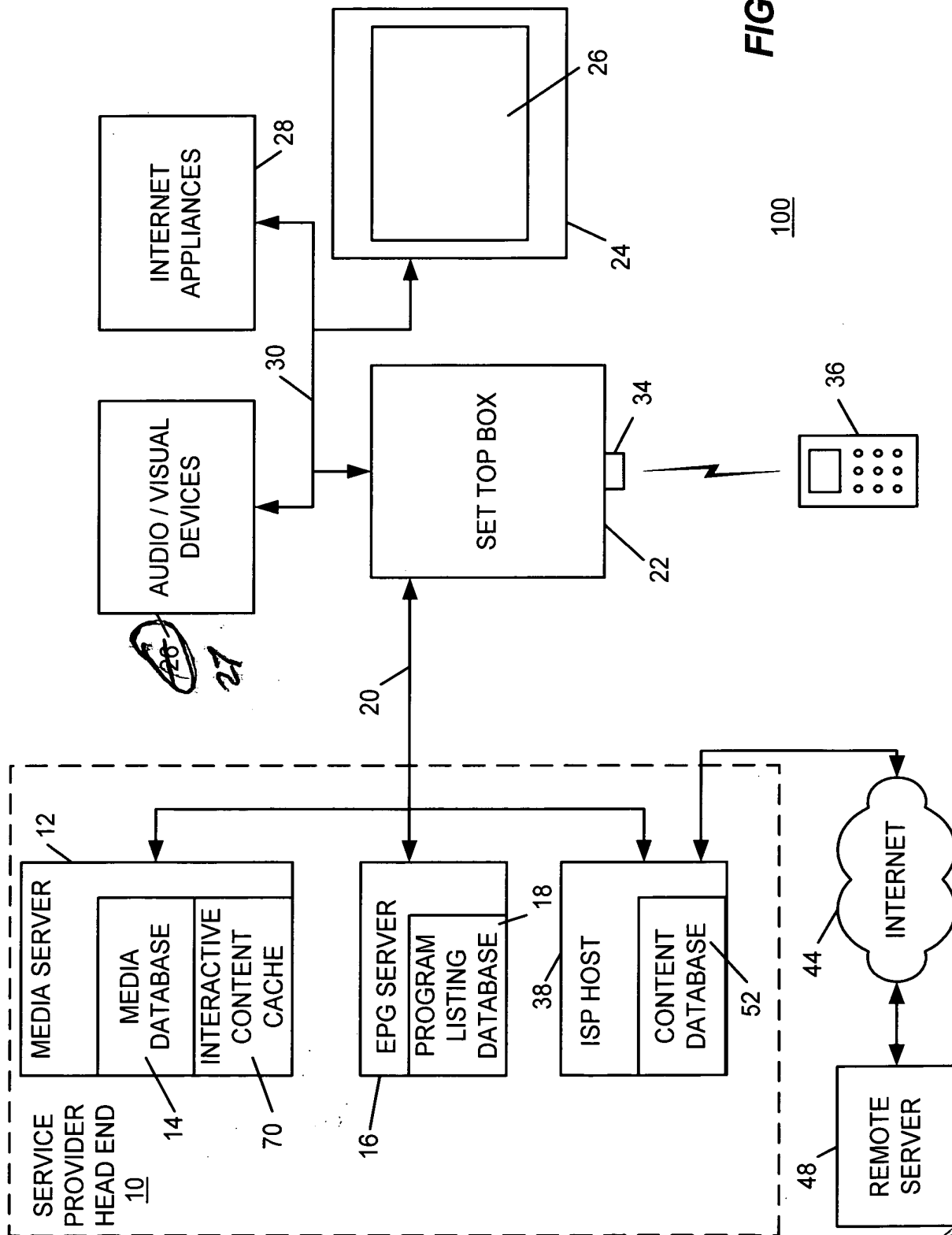
  
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Dated: 12/21/2004

**AMENDMENTS TO THE DRAWINGS**

Please replace Fig. 1 of the drawings with the enclosed replacement sheet.





**FIG. 1**

